PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/707,605	Confirmation No.	:	1604
Applicant	:	Wee Song, Steve **LOY**			
Filed	:	12/23/2003			
TC / A.U.	:	2121			
Examiner	:	**JARRETT,** Ryan A			
Docket No.	:	BCONP2003-13			
Customer No.	:	031366			
Title	:	VIRTUAL PLATFORM TO FACILITATE AUTOMATED PRODUCTION			

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REQUEST FOR CONTINUED EXAMINATION UNDER 37 CFR § 1.114

Sir:

In response to the Office Action mailed on June 3, 2010 (Action), please amend the above-identified application as follows:

a) **Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper; and

b) **Remarks/Arguments** begin on page 8 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1.   (currently amended)   A method of automating validation of a manufacturing process, comprising:

   defining requirements;

   selecting automated manufacturing devices for manufacturing;

   integrating the automated manufacturing devices in a production line, wherein integrating the automated manufacturing devices comprises interconnecting the automated manufacturing devices to a hub-box via communication links, the hub-box operationally controls and facilitates communication between automated manufacturing devices and validation of the manufacturing process, wherein the validation includes generating an organized set of documents defining aspects of the process, in conformance with regulatory standards;

   providing at least one generic interface unit communicatively coupled between ~~the hub-box~~ a hub of the hub box and an automated manufacturing device, wherein said generic interface unit comprises a plurality of communication links employing different communication protocols;

   collecting processing data from the automated manufacturing devices by the ~~hub-box~~ hub for analysis;

   analyzing the processing data to determine whether the requirements are satisfied; and

   validating the manufacturing process if the requirements are satisfied.

2-11.   (cancelled)

12.   (currently amended)   The method of claim 1 further comprises communicating, by the generic interface unit, with the automated manufacturing device using a first communication protocol and communicating, by the generic interface unit, with the ~~hub-box~~ hub using a second communication protocol.

13.   (previously presented) The method of claim 12 wherein said first communication protocol comprises FieldBus, CANbus, Modbus, BITBUS, WorldFIP, Profibus, MAP or a combination thereof .

14.   (previously presented) The method of claim 12 wherein said second communication protocol comprises Ethernet, TCP/IP communication protocol or a combination thereof.

15.   (currently amended)   The method of claim 12 further comprises:

detecting, by the ~~hub-box~~ hub, the first communication protocol; and

translating, by the ~~hub-box~~ hub, instructions or information so that the ~~hub-box~~ hub can communicate with the automated manufacturing device.

16-20. (cancelled)

21.   (previously presented)   The method of claim 1 wherein the requirements are user requirements or functional requirements.

22.   (previously presented) The method of claim 21 wherein the user requirements are facility operating conditions, desired output, quality, process or product specifications.

23. (previously presented)   The method of claim 21 wherein the functional requirements are power consumption, loading, speed or capacity, environmental operating conditions, system or equipment functionalities, process results or quality parameters.

24. (previously presented)   The method of claim 1 wherein the documents contain information relating to change history, operating conditions, events, alarm messages, control parameters, process parameters, measurement data or analysis results.

25. (previously presented)   The method of claim 1 wherein the documents are audit trail reports, electronic records or electronic signatures.

26. (currently amended)   A method of automatic validation of a manufacturing process, comprising:

defining requirements;

selecting automated manufacturing devices of a module for manufacturing, wherein the module forms a stage of a production line;

integrating the automated manufacturing devices in a production line, wherein integrating the automated manufacturing devices comprises interconnecting the automated manufacturing devices to a hub-box via communication links, the hub-box operationally controls and facilitates communication between automated manufacturing devices and validation of the manufacturing process, wherein the validation includes generating an organized set of documents defining aspects of the process, in conformance with regulatory standards;

providing at least one generic interface unit communicatively coupled between ~~the hub box~~ a hub of the hub box and an automated manufacturing device, wherein said generic interface unit comprises a plurality of communication links employing different communication protocols;

collecting processing data from the automated manufacturing devices by the ~~hub box~~ hub for analysis;

analyzing the processing data to determine whether the requirements are satisfied; and

validating the manufacturing process if the requirements are satisfied.

27. (currently amended) The method of claim 26 wherein the automated manufacturing devices of the module comprises:

an automated manufacturing device;

an automated measuring device; and

an automated storage device for storage of in-process production material.

28. (currently amended) The method of claim 26 further comprises communicating, by the generic interface unit, with the automated manufacturing device using a first communication protocol and communicating, by the generic interface unit, with the ~~hub box~~ hub using a second communication protocol.

29. (previously presented) The method of claim 28 wherein said first communication protocol comprises FieldBus, CANbus, Modbus, BITBUS, WorldFIP, Profibus, MAP or a combination thereof.

30.   (previously presented)   The method of claim 28 wherein said second communication protocol comprises Ethernet, TCP/IP communication protocol or a combination thereof.

31.   (currently amended)   The method of claim 28 further comprises:

       detecting, by the ~~hub-box~~ hub, the first communication protocol; and

       translating, by the ~~hub-box~~ hub, instructions or information so that the ~~hub-box~~ hub can communicate with the automated manufacturing device.

32.   (previously presented)   The method of claim 26 wherein the requirements are user requirements or functional requirements.

33.   (previously presented)   The method of claim 26 wherein the documents contain information relating to change history, operating conditions, events, alarm messages, control parameters, process parameters, measurement data or analysis results.

34.   (previously presented)   The method of claim 26 wherein the documents are audit trail reports, electronic records or electronic signatures.

35.   (currently amended)   A method of automatic validation of a manufacturing process, comprising:

       defining requirements;

       selecting automated manufacturing devices of a module, wherein the module forms a stage of a production line, the automated manufacturing devices of the module comprises:

              an automated manufacturing device;

an automated measuring device; and

an automated storage device for storage of in-process production material;

integrating the automated <u>manufacturing</u> devices in a production line, wherein integrating the automated <u>manufacturing</u> devices comprises interconnecting the automated <u>manufacturing</u> devices to a hub-box via communication links, the hub-box operationally controls and facilitates communication between automated <u>manufacturing</u> devices and validation of the manufacturing process, wherein the validation includes generating an organized set of documents defining aspects of the process, in conformance with regulatory standards;

providing at least one generic interface unit communicatively coupled between ~~the hub-box~~ <u>a hub of the hub box</u> and an automated <u>manufacturing</u> device, wherein said generic interface unit comprises a plurality of communication links employing different communication protocols;

collecting processing data from the automated <u>manufacturing</u> devices by the ~~hub-box~~ <u>hub</u> for analysis;

analyzing the processing data to determine whether the requirements are satisfied; and

validating the manufacturing process if the requirements are satisfied.

<u>**REMARKS/ARGUMENTS**</u>

<u>**Request for Withdrawal of Finality**</u>

Applicants are in receipt of a Final Office Action mailed June 3, 2010, in this application. Applicants respectfully submit that the finality of this Action is premature and therefore respectfully request withdrawal of that finality, pursuant to Section 706.07(b) of the Manual of Patent Examining Procedure (MPEP) as quoted by the Examiner.

The Examiner rejects claims 1, 12-15, 21-26, 28-30 and 31-34 on new grounds in view of US 5,366,896 (Margrey et al.). *See Office Action*, page 4 and 6. In addition, to support his reasons for issuing a Final Office Action, the Examiner states that "All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR § 1.114 and could have been finally rejected on the grounds and art of record in the next Office Action if they had been entered in the application prior to entry under 37 CFR § 1.114.... See MPEP § 706.07(b)." *Id*, page 7 and 8.

MPEP § 706.07(b) specifies that "The claims of an application for which a request for continued examination (RCE) has been filed may be finally rejected in the action immediately subsequent to the filing of the RCE ... where all the claims in the application after the entry of the submission under 37 CFR 1.114 (A) are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114, **and** (B) would have been properly finally rejected on the grounds **and art of record** in the next Office action if they had been entered in the application prior to the filing of the RCE under 37 CFR 1.114."

Having carefully reviewed the file history of this Application, Applicants submit that the document Margrey et al. was cited for the first time by the Examiner. As such, this document does not form part of the art of the record for this Application prior to the issuance of this Action. In view of this, Applicants submit that at least one of the conditions set forth in §

706.07(b) of the MPEP has not been satisfied. Accordingly, for at least the foregoing reason, the finality of this Action should be withdrawn.

Claim Amendments

Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicants amend some claims herein. Applicants amend claims using features which are explicitly present in the existing claims or specification. In addition, Applicants amend claims which comply with the Examiner's suggestions. Such amendments are made to expedite prosecution and to more quickly identify allowable subject matter. Applicants submit that the amendments do not present new issues or require an additional search. All amendments are fully supported by the Application and therefore do not constitute new matter. Therefore, entry of the amendments is respectfully requested and would be much appreciated.

Claim Rejections – 35 USC §112

Claims 1, 12-15, and 21-35 are rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In response, Applicants have amended claims 1, 26 and 35 to recite "providing at least one generic interface unit communicatively coupled between *a hub of the hub box* and an automated manufacturing device" as suggested by the Examiner. In addition, claims 12 and 28 have also been amended to replace the term "hub-box" to "hub" as proposed by the Examiner.

As for claims 15 and 31, the Examiner states that it should be the "generic interface unit" doing the "detecting" and "translating", not the "hub-box" as recited in these claims. However, having carefully reviewed the Application, Applicants have amended the term "hub-box" to "hub" in claims 15 and 31 instead of the "generic interface unit" as proposed by the Examiner. Support for the amendments can be found, for example, in paragraph [0034] of the description as filed.

Since the Applicants have amended the claims based substantially on the Examiner's suggestions, Applicants therefore submit that the rejection to these claims under 35 USC § 112 have now been traversed.

Claim Rejections – 35 USC § 102 and 35 USC § 103

Claims 1, 12, 15, 21-26, 28 and 31-34 are rejected under 35 USC § 102(b) as being anticipated by Margrey et al. Claims 13, 14, 29, and 30 are rejected under 35 USC § 103(a) as being unpatentable over Margrey et al. as applied to claims 1 and 28 above, and further in view of Official Notice. Applicants respectfully disagree.

In particular, in page 7 of the Action, the Examiner has indicated that claims 1 and 26 would be allowable if the Applicants change all instances of "automated devices" in these claims and their dependents to "automated manufacturing devices". To expedite prosecution of this Application, Applicants have amended claims 1 and 26 by incorporating the Examiner's suggestion. Hence, Applicants submit that the rejections to these claims under 35 USC § 102 and 35 USC § 103 are moot in view of the changes being made.

Allowable Subject Matter

The Examiner indicates that claim 35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 USC 112, 1st paragraph and claim 27 would be allowable if rewritten to overcome the rejection(s) under 35 USC 112, 1st paragraph, set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims. In addition, the Examiner further states that claims 1 and 26 would also be allowable if Applicants change all instances of "automated devices" in these claims and their dependents to "automated manufacturing devices".

As discussed, claims 1, 26 and 35 have been amended according to Examiner's suggestion. On the other hand, since claim 27 is directly dependent on claim 26, it is believed that this claim would also be allowable as indicated by the Examiner.

Conclusion

In view of the foregoing, Applicant believes that all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Should the Examiner believe that a telephone conference would expedite prosecution of this application, please telephone the undersigned attorney at his number set out below.

Date: December 2, 2010   Respectfully submitted,

/dexter chin/
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